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Simulation Based Mastery Learning Improves Use of Personal Protective Equipment by Medical Students

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care in Case 1, as compared to post-intervention responses.

Conclusion: Creating an implicit bias curriculum may raise student awareness, improve patient care, and thereby prevent morbidity and mortality.

50 Resident Views on the Importance of Promoting Diversity and Inclusion

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Learning Objectives: Describe how EM residents rate the importance of promoting diversity and inclusion in EM education and whether residents from underrepresented groups feel differently than those who are not in underrepresented groups

Background: Promoting diversity and inclusion (D&I) in EM resident education has been identified as an important issue by the ACGME. It is unclear whether the EM residents themselves place a similar importance.

Objective: We sought to determine how important promoting D&I was to EM residents and whether residents who were members of (“UR”) groups had different views than those who were not UR.

Methods: EM residents from six sites were surveyed using Google Forms. Responses had no identifiers. Using a 5-point Likert scale (0-Not Important / Definitely Not to 5-Very Important / Definitely), residents were asked about their views on promoting D&I. Specifically, they were asked “How big an issue is D&I in EM?” and how much they agreed with these statements: “EM resident training needs to incorporate more D&I education,” “EM residencies should have different standards for applicants with different backgrounds”, and “EM residencies need to work harder to recruit more diverse residents.” Residents were asked whether they identify as a member of an UR group. Overall scores for each item were calculated. Differences between the responses of UR residents and non-UR residents were calculated.

Results: 96 residents completed the survey. Residents rated the importance of D&I 4.2 (95%CI 3.9-4.4), the need for more D&I education 3.9 (95%CI 3.6-4.1), the use of different standards for some groups 2.7 (95%CI 2.4-3.0), and need to work harder in recruiting 3.6 (95%CI 3.3-3.8). When compared to those not in UR groups, those in UR groups were more likely to rate the need for more D&I education higher (4.2 vs 3.6, Difference 0.5, 95%CI -1.0 to -0.0). There were no statistically significant differences between the ratings in the other questions.

Conclusion: As expected, residents believe strongly in the importance of promoting D&I in EM resident education. Other than a need for more D&I education,

there were no differences in the views of UR residents and non-UR residents.

51 Simulation Based Mastery Learning Improves Use of Personal Protective Equipment by Medical Students

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Learning Objectives: The objective of this study is to determine if simulation based mastery learning (SBML) improves proper personal protective equipment (PPE) donning and doffing by medical students.

Background: Medical students lack adequate training on how to correctly don and doff personal protective equipment (PPE). Simulation-based mastery learning (SBML) is an effective technique for procedural education.

Objective: The objective of this study is to determine if SBML improves proper PPE donning and doffing by medical students.

Methods: This was a prospective, pretest-post-test study of 155 medical students at one university-based teaching hospital on demonstration of correct PPE use before and after a SBML intervention from July-December 2020. Eligible subjects included preclinical second-year students enrolled in a Practice of Medicine (POM) course and students completing a required emergency medicine (EM) clinical clerkship. Subjects viewed a CDC training video on proper PPE use prior to the intervention. They then participated in a SBML training session that included baseline testing, deliberate practice with expert feedback, and post-testing until mastery was achieved. Students were assessed using a previously developed 21-item checklist on donning and doffing PPE with a minimum passing standard (MPS) of 21/21 items. Differences between pretest and post-test scores were analyzed using paired t-tests. Students at preclinical and clinical levels of training were compared with an independent t-test.

Results: Two participants (1.3%) met the MPS on pretest. Of the remaining 153 subjects who participated in the intervention, 151 (98.7%) reached mastery. Comparison of mean scores from pretest to final post-test significantly improved from an average raw score of 12.55/21 (standard deviation [SD] = 2.86), to 21/21 (SD = 0), $t(150) = 36.3$, $p < 0.001$. There was no difference between pretest scores of preclinical and clinical students.

Conclusion: SBML improves medical student competence in PPE donning and doffing in a simulated environment. This approach standardizes PPE training for students in advance of clinical experiences.